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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/814,398

03/31/2004

Alex Levin

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EXAMINER

SIEK, VUTHE

ART UNIT

PAPER NUMBER

2825

MAIL DATE

DELIVERY MODE

06/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/814,398

Applicant(s)

LEVIN ET AL.

Examiner

Vuthe Siek

Art Unit

2825

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2007 ~~1977~~.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to application 10/814,398 and response filed on 4/10/2007. Claims 1-20 remain pending in the application.

Response to Amendment

1. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection as followed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-8, 10-14 and 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Biesterfeldt (7,019,551 B1).

4. As to claims 1 and 11, Biesterfeldt teaches substantially the same an output driver (Fig. 1, output buffer) comprising a pull-up circuit coupled to a signal terminator device (Fig. 1, a circuit coupled to an output pad), the pull-up circuit including pull-up compensation resistive element (resistor element of RC circuit, Fig. 1); and a pull-down circuit coupled to the signal termination (a circuit coupled to an output pad, Fig. 1), the pull-down circuit including a pull-down compensation resistive element (Fig. 1, resistor

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element of RC circuit, Fig. 1), where the pull-up and pull-down compensation resistive elements to provide analog compensation of output driver signal slew rate against device impedance variation, such that a slew rate of a driver output signal is within a predetermined slew rate range (Fig. 1, col. 5 lines 5-29). Note that the output driver as taught by Biesterfeldt can be used or integrated in a modern computer system that includes a peripheral device and a chipset.

5. As to claims 2 and 16, Fig. 1 shows a pull-up pre-driver to selectively generate pull-up signals to cause a rising signal transition at the driver output pad; and a pull-down pre-driver to selectively generate pull-down signals to cause a falling signal transition at the driver output pad, such that a slew rate of a driver output signal is within a predetermined slew rate range (Fig. 1, see detailed its description).

6. As to claims 3-4 and 12-13, Fig. 1 shows a plurality of pull-up devices, each pull-up device coupled between a driver supply voltage and the signal termination device and a plurality of pull-down devices, each pull-down device coupled between a driver group and the signal termination device (Fig. 1, see detailed its description).

7. As to claims 5-6, Fig. 1 shows the pull-up devices comprising a plurality of PMOS devices having a source coupled to the driver supply voltage, a drain coupled to the signal termination device and a gate to receive a pull-up signal to activate the PMOS device to generate a rising signal transmission at the driver output pad and a crowbar current using a falling signal transition at the driver output pad (at least see Fig. 1, see detailed its description). Note that the output driver as taught by Biesterfeldt provides the same functionality.

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8. As to claims 7-8 and 14, Fig. 1 shows the pull-up compensation resistive elements is coupled, in series, between a selected pull-up device and the signal terminal device; and the pull-up compensation resistive elements is coupled, in series, between a selected pull-down device and the signal termination device (Fig. 1, see detailed its description).

9. As to claims 18-20, the output driver as taught by Biesterfeldt can be used in many applications and integrated in a modern computer system that includes a peripheral device and a chipset. The claimed limitations as recited are known art inherently in a modern computer system (communication system).

10. As to claims 10 and 17, the claimed limitations are described in col. 5 lines 5-29.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being obvious over Biesterfeldt (7,019,551 B1) in view of applicant admitted prior art. Biesterfeldt does not teach specifically teach the pull-up compensation resistive element and pull-down compensation resistive element are Nwell resistive elements, but applicant admitted that an Nwell structure is simple to create and consumes a relatively small die area (0003). With these motivations, it would have been obvious to one of ordinary skill in

the art at the time the invention was made to implement the resistive elements as taught by Biesterfeldt is Nwell resistive elements.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vuthe Siek whose telephone number is (571) 272-1906.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on (571) 272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Vuthe Siek/

Primary Examiner, A.U. 2825